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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,553	10/27/2003	Harris A. Reynolds JR.	09432/180003	2419
22511	7590	06/06/2006	EXAMINER	
OSHA LIANG L.L.P. 1221 MCKINNEY STREET SUITE 2800 HOUSTON, TX 77010			AFTERGUT, JEFF H	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/694,553

Applicant(s)

REYNOLDS ET AL.

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over E.P. 907,049 in view of Thongs, Jr.

E.P. '049 suggested that it was known at the time the invention was made to make a connector for a composite pipe which included the steps of attaching a connector having at least one trap to a liner segment of a composite pipe formed from a plurality of fibers wound around a liner. The reference to E.P. '049 additionally suggested that one wound a plurality of fibers across the connector and over a trap disposed on the connector. One skilled in the art would have understood that the fibers wound over the assembly were under tension in the winding operation as such is necessary in order to wind the fibers onto the form. The reference did not expressly state that the fibers forming the outer surface of the assembly lacked microscopic waviness. It should be noted that the lack of microscopic waviness was an intrinsic result of the fact that the exterior layer was wound under high tension as noted by applicant. The applicant is advised that the reference suggested that an exterior circumferential or hoop layer 18A was provided about the exterior of the assembly and that hoop windings 18 were employed to compress the fibers into the traps in the processing.

The reference to Thongs suggested that those skilled in the art at the time the invention was made would have employed hoop windings which forced the fibers into the traps wherein the hoop winding and exterior windings of the assembly would have been applied under high tension in order to ensure that the helical windings disposed over the traps were adequately formed into the traps of the connector, see column 4, lines 6-19. The reference made it clear that the windings were retained in their place during the curing of the resin of the assembly. As it would have ensured that fibers in the traps would have been retained in place, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Thongs, Jr. in the process of making a connector for a composite pipe which included traps therein as taught by E.P. 907,049.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with either one of Matuska et al or Corr et al.

The references as set forth above in paragraph 2 suggested the overall operation, however there is no mention of the use of exterior hoop fibers which are wound with a negative coefficient of thermal expansion. However, in the art of manufacturing a composite article, it was well known at the time the invention was made to wind fibers having a negative coefficient of thermal expansion in order to better balance the structure and achieve dimensional stability for the same. In each of Matuska et al and Corr et al the fibers wound onto the structure included polyaramid, graphite or carbon fibers therein. One skilled in the art of manufacturing a composite

article would have readily appreciated the need for the use of such reinforcing fiber materials in the process of making a composite article as they would have allowed one to manufacture a finished assembly with high dimensional stability even when exposed to temperature variations. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of either one of Matsuka et al or Corr et al in the process of making a composite wherein one desired improved dimensional stability in the process of making a composite connector as taught above in paragraph 2 wherein one wound the connector with a winding material which included a negative coefficient of thermal expansion.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with Fillman.

The references as set forth above in paragraph 2 suggested the overall operation as well as the curing of the resin in the wound assembly with the application of heat to cure the same. The combination, however failed to teach that those skilled in the art of making a connector would have understood that a heat shrink tape would have been supplied over the wound assembly prior to the heating step in order to not only cure the material but consolidate the material during the curing of the same as well as retain the resin in the assembly during the curing operation. The reference to Fillman suggested that those versed in the art at the time the invention was made would have incorporated hoop windings 64 over a composite as well as the connector for the same. Following the application of the hoop windings, the reference suggested that one applied a shrink tape 66 about the exterior of the assembly. The shrink tape was applied and used in the

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curing of the resin of the wound assembly (where heat and pressure were applied to the assembly) in order to prevent the escape of the resin during the curing operation.

Applicant is referred to column 6, lines 25-column 7, line 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Fillman in order to ensure that the resin was retained during the curing of the assembly in the process of making a filament wound connector and pipe assembly as set forth above in paragraph 2.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeff H. Aftergut

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Primary Examiner  
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JHA  
May 28, 2006